

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

This amendment adds and changes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claims remain under examination in the application, is presented, with an appropriate defined status identifier.

Status of the Claims

Prior to entry of this Amendment, claims 1-56 were pending in the present application. In this Amendment, claims 1, 25, and 27-56 have been amended. These amendments add no new matter. Claims 57-59 have been added. After entry of this Amendment, claims 1-59 are pending in the application.

Claim Rejections – 35 U.S.C. § 102(b)

Claims 1-4, 6-12, 16-22, 24-40, and 43-56 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated and, in the alternative, as obvious under 35 U.S.C. § 103(a) over Freese (U.S. Patent No. 3,416,928). In view of amendments to the claims and Applicant's arguments presented herein, the rejection as it applies to claims 1-4, 6-12, 16-22, 24-40, and 43-56 is respectfully traversed.

Freese discloses a pelleted ruminant feedstuff produced with urea prills from 12 to 30 mesh in size. (Freese, col. 1, lines 20-24). Freese does not disclose or suggest the use of *crushed* urea of any mesh size, thus Freese fails to teach all of the elements of the present invention.

Claims of the present application are directed to the use of crushed urea. As disclosed in the current application, crushed urea has markedly different morphology than urea prills. For example, crushed urea is less spherical than prilled urea. (Application, paragraphs [0064]-[0066] and Figures 1-5, 8, and 9). As a result of the unique morphology and size characteristics of the

crushed urea, the present application discloses increased pelleting throughput for formulations including the *crushed* urea as compared to throughput for compositions including prilled urea that has not been crushed. (Application, Examples 3-5).

Furthermore, Freese teaches away from the use of *crushed* urea. Freese teaches that “crystalline urea or microprilled forms of urea smaller than 30 mesh tend to break down to a liquid form when subjected to the very extreme pressures and temperatures of the ruminant feed pelleting operations.” (Freese, col. 2, lines 21-25). Freese goes on to explain that liquefaction of causes undesirable physical characteristics the product pellet. (Freese, col. 2, lines 21-33). To this end, Freese teaches the use of *intact* prills, 94% of which are in the size range of 12-20 mesh dimensions. (Freese, Example 1).

Independent claims 1, 9, 19, 27, 37, and 48 of the present application are directed to methods and compositions that include *crushed* urea. Because Freese does not disclose or suggest the use of *crushed* urea, because *crushed* urea has different properties than *intact* urea prills, properties that lead to differences in manufacturing productivity, and because Freese teaches away from the use of *crushed* urea, Applicant asserts that the rejection of these independent claims and corresponding dependent claims is without basis. Applicant respectfully requests that the rejection of claims 1-4, 6-12, 16-22, 24-40, and 43-56 under 35 U.S.C. § 102(b) be withdrawn. Moreover, since the Office Action has cited no references that independently or in combination cure the deficiencies of Freese, Applicant respectfully requests that the rejection of claims 1-4, 6-12, 16-22, 24-40, and 43-56 under 35 U.S.C. § 103(a) be withdrawn.

Claims 1-4, 6-14, 16-22, 24-51, and 53-56 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated and, in the alternative, as obvious under 35 U.S.C. § 103(a) over Wilding (U.S. Patent No. 3,600,188). In view of amendments to the claims and Applicant’s arguments presented herein, the rejection as it applies to claims 1-4, 6-14, 16-22, 24-51, and 53-56 is respectfully traversed.

Wilding teaches a process for manufacturing a feed supplement, wherein finely ground urea is combined with other nutritive materials at elevated temperatures and pressures, and the resulting “plastic matrix” is extruded. (Wilding, Abstract of the Disclosure, col. 2, lines 63-71 to col. 3, lines 1-5, Examples I-V and VII-XIII). Wilding does not teach or suggest the use of *crushed* urea, and therefore fails to teach all of the elements of the present invention.

Wilding teaches that “utilization of the temperatures and pressures set out above will convert the urea into the *liquid state* which in turn solubilize the protein . . . It is the solubilization of the proteinaceous material by the urea that is the cause of the matrix formation.” (Wilding, col. 3, lines 60-66, emphasis added). Since liquefaction of “finely ground” urea is taught by Wilding, one skilled in the art would be motivated to use the smallest available particles of urea in practicing the teaching of Wilding due to the relative ease with which smaller particles may be liquefied when compared to larger particles. Moreover, one skilled in the art would *not* be motivated to combine Wilding with Freese, since the latter reference teaches away from the use of forms of urea which liquefy during processing.

Independent claims 1, 9, 19, 27, 37, and 48 of the present application are directed to methods and compositions that include *crushed* urea. Because Wilding does not disclose or suggest the use of *crushed* urea, Applicant asserts that the rejection of these independent claims and corresponding dependent claims is without basis. Applicant respectfully requests that the rejection of claims 1-4, 6-14, 16-22, 24-51, and 53-56 under 35 U.S.C. § 102(b) be withdrawn. Moreover, since the Office Action has cited no references that independently or in combination cure the deficiencies of Wilding, Applicant respectfully requests that the rejection of claims 1-4, 6-14, 16-22, 24-51, and 53-56 under 35 U.S.C. § 103(a) be withdrawn.

Claims 1-4, 6-14, 16-22, and 24-56 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated and, in the alternative, as obvious under 35 U.S.C. § 103(a) over Vrijenhoef *et al.* (WO 02/06186). In view of amendments to the claims and Applicant’s arguments

presented herein, the rejection as it applies to claims 1-4, 6-14, 16-22, and 24-56 is respectfully traversed.

Vrijenhoef *et al.* teaches preparation of an organic mineral fertilizer using urea and a dry solid granulation technique. (Vrijenhoef *et al.*, Abstract). Vrijenhoef *et al.* discloses the urea used may be “powdery or in form of prills.” (Vrijenhoef *et al.*, page 3). Vrijenhoef *et al.* does not disclose or suggest crushing urea and does not disclose or suggest the use of *crushed* urea. Thus, Vrijenhoef *et al.* fails to teach all of the elements of the present invention.

As with the process disclosed in Wilding, the process disclosed in Vrijenhoef *et al.* relies on *melting* the urea with organic waste material to form a “partly molten feed material.” (Vrijenhoef *et al.*, pages 2-3). As in the case of Wilding, Vrijenhoef *et al.* contains no suggestion of the use of crushed urea and teaches a process which involves liquefaction of the urea. It should be further noted, that the invention of Vrijenhoef *et al.* is directed to the production of fertilizer and does not address specific issues that arise in the context of creating pellets with desirable physical characteristics that are also nutritionally sound and will not lead to ammonia poisoning in ruminants.

Independent claims 1, 9, 19, 27, 37, and 48 of the present application, as amended, are directed to methods and compositions that include *crushed* urea. Because Vrijenhoef *et al.* does not disclose or suggest the use of *crushed* urea, Applicant asserts that the rejection of these independent claims and corresponding dependent claims is without basis. Applicant respectfully requests that the rejection of claims 1-4, 6-14, 16-22, and 24-56 under 35 U.S.C. § 102(b) be withdrawn. Moreover, since the Office Action has cited no references that independently or in combination cure the deficiencies of Vrijenhoef *et al.*, Applicant respectfully requests that the rejection of claims 1-4, 6-14, 16-22, and 24-56 under 35 U.S.C. § 103(a) be withdrawn.

Claim Rejections – 35 U.S.C. § 103(a)

Claims 5, 15, and 23 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Freese (U.S. Patent No. 3,416,928), or Wilding (U.S. Patent No. 3,600,188), or Vrijenhoef *et al.* (WO 02/06186) in view of Dancy (U.S. Patent No. 3,656,931) and Hay, Jr. *et al.* (U.S. Patent No. 5,340,598). In view of Applicant's arguments provided herein, the rejection, as it applies to claims 5, 15, and 23, is respectfully traversed.

Dancy teaches ammoniating phosphoric acid containing incidental metallic impurities to provide gelatinous solids that may be dried and comminuted in the presence of water to provide a stable aqueous suspension. (Dancy, col. 1, lines 74-75 to col. 2, lines 1-20). Dancy does not cure the deficiencies of Freese, Wilding, or Vrijenhoef *et al.*

Hay, Jr. *et al.* teaches a method of producing spherical baked goods. (Hay, Jr. *et al.*, Abstract). Hay, Jr. *et al.* does not cure the deficiencies of Freese, Wilding, or Vrijenhoef *et al.*

Accordingly, reconsideration and withdrawal of the rejection of Claims 5, 15, and 23 under 35 U.S.C. § 103(a) is respectfully requested.

Conclusion

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

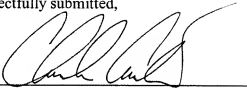
The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even

entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Date July 8 2008

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